The Clean Coal Power Initiative –
Part of A Balanced National Energy Policy
Remarks by
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at the
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Good morning. Thank you for joining in what I think will be a precedent setting opportunity for all parties here – government, industry and academia – to provide input into the President's Clean Coal Power Initiative.
Because of the events of September 11th, we are in a period of uncertainty. But those tragic events have brought us a stronger sense of unity, and a sense that we must move forward.

I think we need to reflect on these events and realize even more that our nation's national security is tied to our energy security. It will gain even greater importance as we enter into a prolonged period of struggle that will undoubtedly test global alliances. A diversity of energy resources leads to inherent energy stability, and that, in turn, leads to greater energy strength and greater energy security.

The events of September 11 have changed our lives and may change the way we view our future. It is difficult to discuss such matters as energy supply and demand, or energy prices, or energy reliability in the context of "business as usual." There will be little in this country that will be "business as usual" in the coming days. But energy – and energy security – must never be far from our national attention, even if the attention is currently focused on more immediate needs. And clean coal is one of the cornerstones of that energy security.

My remarks will address not only the President's National Energy Policy, but also the chance for us to combine our resources and implement its recommendations by increasing our investments in clean coal technology. It is an opportunity for interaction that will help us to design an overall, clean coal power investment strategy – one that best satisfies the needs of prospective participants, stakeholders and the American public.

Last year's electricity price spikes and shortages are gone. This summer's blackout scare didn't materialize. $3 gasoline didn't come to pass. But, the recent events in New York and Washington still leave us in unpredictable times. We cannot become complacent about our energy future.
American poet Wallace Stevens said, "Everything is complicated; if that were not so, life and poetry and everything else would be a bore." So there are no easy answers to our energy future.
What is the energy problem? This is it in its simplest form.

- In the next 20 years we expect overall U.S. energy consumption to increase by more than 30 percent.
- We expect oil demand to increase by one third.
- We expect consumption of natural gas to increase by 62 percent.
- We expect electricity demand to grow by 45 percent, owing at least in part to the growth of power hungry information technology.

Americans now consume 98 quadrillion Btus – or 98 quads – of energy each year.

If the energy intensity of the U.S. economy – the amount of energy needed to generate a dollar of our Gross Domestic Product – remained constant, our energy demand in 2020 would be 175 quads. However, our plan and current policies are projected to improve energy efficiency to the point that energy demand in 2020 can be lowered from 175 to perhaps 127 quads.

Improved energy efficiency can help close much of the gap between projected energy demand and projected domestic energy production. But I think it is important to point out that to reduce energy use by this amount means that we will have to achieve energy conservation gains that exceed those of the last 10 years.

Even if this is possible, we know that improved energy efficiency cannot do the whole job. If we do nothing to encourage increased energy production – above the 1989 through 2000 growth rates – we are looking at a widening energy gap over the next 20 years, ultimately extending to nearly 30 quads. As a reference, energy production in the United States has only increased 1 quad in the past 10 years.
For that reason, the United States needs an energy policy that includes both aggressive energy efficiency measures and equally aggressive measures to boost energy supply.

This is the course that President Bush set when he presented his National Energy Policy. The President's plan centers on 5 core themes.

The first is to modernize our conservation efforts by employing cutting edge technology. The U. S. economy has become more energy efficient in the last 30 years.

The refrigerators in our homes now use only 1/3rd of the electricity of the refrigerators of 1972. We now have fluorescent light bulbs that use only 25 percent of the electricity of conventional incandescent bulbs. Our automobiles use, on average, only 60 percent of the gasoline they did in 1972 to drive a mile.
But more can be done.

So the President's National Energy Plan calls for a variety of energy efficiency initiatives – from steps to further improve the efficiency of appliances to recommendations on improvements in the average fuel economy for automobiles and light trucks.

In fact, more than 50 percent of the National Energy Policy's recommendations focus on energy efficiency – encouraging the development of fuel efficient vehicles, higher efficiency appliance standards, efficiency-based tax credits, and combined heat and power technologies.

Second, our Plan calls for a diversity of energy supply sources.

As I mentioned earlier, in the next 20 years, electricity demand in the United States is forecast to rise 45 percent.

There are roughly 5,000 power plants in the United States, with a total generating capacity of nearly 800,000 megawatts. But to meet the increase in power demand between now and 2020 will require the equivalent of adding 1,300 to 1,900 new power plants.

If current policies and practices remain unchanged, most of those plants – in fact, more than 90 percent – will be fired by natural gas. That accounts for the sharp rise in the demand for natural gas.
We believe energy security dictates a more balanced approach to new power generation.
So in addition to measures that encourage the greater use of natural gas, the Plan also recommends a 10-year, $2 billion program to develop improved clean coal power technologies. That is our focus today.
And the Plan also reopens the nuclear option to give us a broader mix of energy needed to meet growing demands.

The National Energy Plan also addresses the energy delivery network in our country. We have more than 2 million miles of oil pipelines and 1.2 million miles of gas pipelines.

We recognize that the current oil and gas delivery system is coming under increased stress, and bottlenecks are developing.

The problem may be most acute in our natural gas infrastructure. The consensus of our gas industry is that the United States will need an additional 38,000 miles of major transmission pipelines and 263,000 miles of smaller distribution lines by 2015 to bring the necessary natural gas to homes and businesses. We will also need a new pipeline to deliver gas from Alaska to the rest of the nation, and we will need to improve pipeline safety.

Each of these issues is addressed in our Plan.

Our electricity grid needs to move from one designed to meet regional needs to one capable of sending power coast-to-coast. The U.S. power network is built in three large grids: the Eastern, Texas and Western systems. While connected in a handful of spots by direct current lines, these three grids largely operate independently.

One of the major reasons for blackouts in California was simply an inability to move power into the State from areas of the country that had a surplus.

The National Energy Policy sets into motion efforts to change that.

Third, the plan balances our pressing requirements for traditional sources of energy – coal, oil and gas – with the need for more renewable and alternative energy sources, such as biomass, solar, wind, geothermal, and hydro power.

But it also recognizes that it will take years – if not decades – for renewable and alternative resources to make major contributions to our energy mix.

Therefore, the Plan seeks to increase exploration of domestic sources of oil and gas by providing greater access for environmentally safe oil and gas operations in areas previously off-limits to development. In addition, it provides for research and development on technologies to increase production from existing resources as well as harder to access environmentally sensitive resources in frontier areas, such as the deep offshore, Alaska, and certain Rocky Mountain areas.

Fourth, our energy plan harmonizes growth in domestic energy production with environmental protection. A commitment to environmental stewardship is a commitment woven throughout our energy policy. Like improvements in energy efficiency, we have made considerable progress in reducing pollutants as our consumption of energy has grown.

Largely because of better technology, we have made environmental progress without compromising the expansion of our economy.

But we can do more – especially if we continue to foster better technology and establish greater regulatory certainty for the industries that will use it.

That is why, for example, in addition to recommendations to streamline the permitting process for power plant siting, the National Energy Policy also directs the Environmental Protection Agency to propose mandatory reduction targets for emissions of three major pollutants – sulfur dioxide, nitrogen oxides, and mercury – from electricity generation. This is also crucial to today's discussions.

Fifth and equally important as all the others, the Energy Plan recognizes the need to strengthen global alliances and markets, as General Lawson has said so eloquently said.

So it is within that context that we address the Clean Coal Power Initiative. The relevant pieces of the overall situation and strategy are these:

- the electric industry is expected to grow by 45 percent in the next 20 years.
- if circumstances don't change, the vast majority of new plants to meet that growth will be natural gas based.
- environmental constraints are mounting on the use of current coal-based plants and technology.

But

- coal is an abundant and inexpensive resource.
- technology, developed by both industry and the government in partnership, has lessened the environmental impact of coal technologies.
- reliance on a single source, natural gas, could lead to constraints on supply or significant price increases, or both.
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So the President's policy does four things in this context.

First, it provides $2 billion for clean coal technology over the next 10 years, in addition to our ongoing R&D program, to provide an acceptable alternative to natural gas.

Second, it stresses the need for technological solutions.

Third, it emphasizes that this cannot be just a government program. Rather it needs to be a program with even greater input from the private sector than previous successful programs.

Fourth, it envisions a more stable regulatory regime to provide an atmosphere conducive to investments in coal-based technology.

My concept is this. We need to develop and demonstrate the technologies that will make existing coal plants cleaner to operate and more efficient, thus allowing those plants to continue to generate electricity longer than otherwise possible. At the same time, we need to accelerate the development of technology for new plants, approaching zero emissions, including CO2, so that they can be deployed sooner. Therefore, we must push existing plants farther into the future, while pulling new plants closer to the present.

What makes us think this is possible?

First of all, we have a solid base in our research and development program. Along with industry-sponsored R&D, the government/industry R&D program provided the technology brought to fruition in the first Clean Coal Technology demonstration program, begun in the Reagan and first Bush administrations. Those programs culminated in the investment of nearly $5.3 billion, almost $3.5 billion of which was provided by industry. These investments have led to:

- utilization or planned utilization of low NOx burners on nearly 3 out of every 4 coal-burning power plants in this country.
- reduction of the cost of Selective Catalytic Reduction technology for nitrogen oxide removal by almost 50 percent.
- increased reliability, improved energy efficiency, and reduced cost of scrubbers for SO2.
- commercialization of large scale fluidized bed technology for utility-scale boilers.
- confirmation of the reliable operation of clean, efficient integrated gasification combined cycle technology.

These achievements were calculated by the Southern Company to provide over $100 billion in benefits to the U.S.

So we think it is possible because we've done it before.

Since the previous Clean Coal Program, we have continued, again in close cooperation with industry, to pursue a comprehensive research and development program in clean power technology. You are well aware of our continued emphasis on improving the operation of existing facilities through programs dealing with particulates, nitrogen oxides, and mercury in particular. In recent years we have established ambitious goals and begun serious research on high efficiency, ultra-clean, flexible production systems to produce a variety of products including fuels and chemicals – in addition to electricity – in our Vision 21 program. The exacting goals of this program are mirrored by similar efforts of the industry to establish such visions. And most recently, we have begun the long-term effort of developing technology to capture and sequester CO2 as part of an effort to reduce the climate effects of fossil energy use, particularly coal. So we believe this is a technology base that can be demonstrated over the next 10 years. The President believes, as we do also, that now is the time to undertake an intense effort to take the technologies being developed in DOE and other programs and demonstrate that such technology can be used commercially to lead to an ultimate goal of a zero emissions coal-based power plant.

He also believes, as we do, that such an undertaking needs to be a close cooperative effort between the federal government, represented by DOE, and the industries responsible for producing power for the U.S., as well as their partners in state and local governments and in the research community.
We have been cooperating already. We need to do more. Today we will be discussing suggestions as to how to do that.

Today will cover many things:

- how to structure the expected Clean Coal Power Initiative procurement in FY 2002.
- how to structure the long-range initiative of the President in conjunction with our ongoing research and development programs.
- how to encourage the broad deployment of demonstrated technologies through incentives and other methods.
- how to address regulatory issues concerning the use of coal and their impact on technology.

AND

- how best to establish a management structure that will build on and strengthen the cooperative effort between DOE, industry, state and local governments, and the research community, and assure the success of the President's initiative.

What is success? I think we need to define that, too, in the coming months. But generally, we want in the long run to produce technologies that will lead to highly efficient, near zero pollutant, highly flexible power facilities capable of competing in a carbon-constrained world with natural gas. Although we want to, as I said previously, extend the useful life of existing facilities in an efficient and environmentally sound way, the major thrust of the program must be the longer term goals. We need to find an efficient way to achieve them. That is our task.

The task is a challenge. We need to make coal part of the solution rather than part of the problem as many perceive it now. The President has said, "Our administration will be creative. We're committed to protecting our environment and improving our economy, to acting at home and working in concert with the world. This is an administration that will make commitments we can keep, and keep the commitments that we make."

I appeal to each of you to work with the President and the Administration to meet the challenges ahead of us to allow the sustained use of coal as a cornerstone of our energy strategy. I want you to make a commitment with us to establish and meet the goals necessary to do that.

Before September 11, I would have ended here. But, these past few days, perhaps more than at any time in the last half century, have underscored the importance of unity in both our response and resolve. Our nation is strong, but it will need to summon all of its strength to confront the challenges that await us. Energy is part-and-parcel of our national strength and, likewise, we must summon all of our determination and wisdom to ensure that we remain an energy-strong and energy-secure nation.

National goals have been redefined in the last week, but the fundamental means to achieve these goals has not changed. The will of a strong and resolute people, the technology of a great nation, and the courage to take on the challenges of an uncertain future – these are the values that define our country. They are the values on which we will rely in the coming days.

I want to thank all of you for your work in helping to strengthen the energy future of our country. You are making a positive and lasting contribution. I ask that you continue to do your part to make America stronger and more secure. It is more important than ever.

Thank you.